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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,209	01/09/2009	Sture Roos	070265-082154	7811
26288	7590	10/26/2010	EXAMINER	
Aibihns.Zacco AB			TESHALE, AKELAW	
P.O. Box 5581				
Valhallavagen 117			ART UNIT	PAPER NUMBER
STOCKHOLM, SE-114 85			2614	
SWEDEN				
			MAIL DATE	DELIVERY MODE
			10/26/2010	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/597,209	<b>Applicant(s)</b> ROOS ET AL.	
	<b>Examiner</b> AKELAW A. TESHAE	<b>Art Unit</b> 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 May 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

1. The Preliminary Amendment submitted on 09/09/2008 has been considered by the examiner.

### *Specification*

2. The abstract of the disclosure is objected to because the abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text. Correction is required. See MPEP § 608.01(b).

### *Claim Objections*

3. **Claims 1 and 11** are objected to because of the following informalities: Claims 1 and 11 recite lines (s). (s) is not distinctive or definite claimed subject matter. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1-6, 8-11,13-14 and 16-17** are rejected under 35 U.S.C. 102(b) as being anticipated by U.S Patent No.4, 817,134 to Pickens et al. (hereinafter "Pickens").

Regarding **claim 1**, Pickens teaches an automated switching apparatus for electrically cross- connecting any line(s) in a set of input lines to any line(s) in a set of output lines (see Fig. 3) comprising:

a switch matrix comprising a plurality of sliding contact means for selectively connecting any of the input lines to any of the output lines (see Fig. 3 element 24, 23a and 23b, column 3, lines 14-29 and column 5, lines 6-12);

drive means for moving the contact means on the switching apparatus (see Fig. element 32 and 41 (motor drivers) and column 3, lines 30-42);

position detection (position monitor 32) means for detecting the position of the contact means on the switching apparatus (Fig. 3 and column 4, line 58 through column 5, line 12); and

control (matrix control unit) means connected to said drive means and to said position detection means for accurately moving the contact means to a desired position on the switching apparatus (Fig. 3 and column 4, lines 46-66).

Regarding **claim 2**, Pickens teaches the apparatus according to claim 1 wherein, said switch matrix includes a plurality of electrically conducting main contact pads disposed thereon and arranged in a plurality of contact trains, and wherein said contact means includes a set of main contact springs that are

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slidably engageable with said main contact pads for cross-connecting the lines (column 3, lines 9-29).

Regarding **claim 3**, Pickens teaches the apparatus according to claim 1 wherein, said switch matrix sliding comprises a plurality of positioning screws driven by the drive means for moving the contact means (column 3, lines 9-29).

Regarding **claim 4**, Pickens teaches the apparatus according to claim 3 wherein, the positioning screws are each driven by an electric motor that is controlled by the control means (Fig. 3 and column 3, lines 5-65).

Regarding **claim 5**, Pickens teaches the apparatus according to claim 3 wherein, said drive means further comprises.

a first and a second lateral positioning screws driven by rotary drive means; and a lateral drive gear engaged between the first and second lateral positioning screws, whereby the combination in rotation of the lateral positioning screws induces lateral movement of the lateral drive gear to a position to selectively engage one of said positioning screws, and wherein the synchronized rotation of the lateral positioning screws induces stationary rotation of the lateral drive gear to rotate the selected positioning screw for moving the contact means (column 2, line 67 through column 3, line 29 and Pickens's claim 16).

Regarding **claim 6**, Pickens teaches the apparatus according to claim 5 wherein, said first and second lateral positioning screws are driven by electric motors that are controlled by the control means (see Fig.3 and column 2, line 67 through column 3, line 29).

Regarding **claim 8**, Pickens teaches the apparatus according to claim 1 wherein, said switch matrix further comprises a first and a second set of detector pads disposed thereon in proximity with said contact trains, and wherein the contact means further includes corresponding sets of detector springs that are slidably engageable with said first and second set of detector pads for detecting the precise position of the contact means (Fig. 3 and column 4, line 41 through column 5, line 12).

Regarding **claim 9**, Pickens teaches the apparatus according to claim 1 wherein, the switch matrix is configured in a stacked arrangement for increasing the number of cross-connectable lines (see Fig.3).

Regarding **claim 10**, Pickens teaches the apparatus according to claim 9 wherein, switch matrix is incorporated into a plurality of cross-connect modules for installation into a distribution frame, said plurality of cross-connect modules operate in cooperation with a automated cross-connect system for remotely establishing, removing, or modifying cross-connects (column 1, lines 6-16 and column 2, lines 4-13; The stepper motors are controlled and monitored by a

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microprocessor which receives instructions from and sends information to a remote location).

Regarding **claim 11**, Pickens teaches a method of automating a switch matrix apparatus for cross- connecting a line(s) in a set of input lines to any line(s) in a set of output lines (see Fig. 3), said switch matrix comprising a plurality of electrically conducting contact pads disposed thereon (column 3, lines 9-45), a plurality of contact means driven by a plurality of corresponding contact means positioning screws such that the contact means are slidably engageable with the contact pads for cross-connecting the lines (see Fig. 3 element 24, 23a and 23b, column 3, lines 14-29 and column 5, lines 6-12), and position detection means for detecting the position of the contact means on the switch matrix (Fig. 3 and column 4, line 58 through column 5, line 12), the method comprising the steps of:

displacing the contact means to engage a predetermined set of contact pads by rotating the contact means positioning screw (column 3, lines 9-42);

detecting the position of the contact means (Fig. 3 and column 4, line 58 through column 5, line 12); and

adjusting, if necessary, the position of the contact means based on the detected position (Fig. 3 and column 4, line 58 through column 5, line 12; see re-align).

Regarding **claim 13**, Pickens teaches the method according to claim 12 wherein, the contact means positioning screws are rotated by separate electric motors (Fig. 3 and column 3, lines 9-29).

Regarding **claim 14**, Pickens teaches the method according to claim 11 wherein, the first and second lateral positioning screws are each rotated by an electric motor (Fig. 3 and column 3, lines 9-29).

Regarding **claim 16**, Pickens teaches the method according to claim 12 wherein, the contact means is accurately positioned on the switch matrix arrangement by control means in communication with position detection means and the electric motors (column 4, line 58 through column 5, and line 12).

Regarding **claim 17**, Pickens teaches the method according to claim 11 wherein, the switch matrix arrangement is incorporated into a plurality of cross-connect modules for installation into a distribution frame, the plurality of cross-connect modules operate in cooperation with a automated cross-connect system for remotely automating the establishment or removal of cross-connects (column 1, lines 6-16 and column 2, lines 4-13).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:



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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 7, 12 and 15** rejected under 35 U.S.C. 103(a) as being unpatentable over U.S Patent No.4, 817,134 to Pickens et al. (hereinafter "Pickens") in view of U.S Patent No. 6,138,345 to Suzuki et al. (hereinafter "Suzuki").

Regarding **claim 7**, Pickens teaches the apparatus according to claim 5 wherein, the rotating drive means comprises a electric motor driving the first lateral positioning screw at one end, wherein the other end is coupled to a clutch arrangement that is selectively engageable to rotate the second lateral positioning screw in a manner that induces lateral movement and stationary rotation in the lateral drive gear (column 3, lines 5-42).

However, Pickens does not explicitly teach synchronously rotate mechanism.

In the same field of endeavor, Suzuki teaches synchronously rotate mechanism (column 5, lines 17-30 and column 16, lines 43-51; a plurality swinging members simultaneously rotate).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to modify Pickens's reference with synchronously rotate as taught by Suzuki in order to connect and disconnect a designated line simultaneously.

Regarding **claim 12**, Pickens teaches the method according to claim 11 wherein, a lateral drive gear is engaged between a first and a second lateral positioning screws, the operation for displacing the contact means comprising the steps of:

rotating the first lateral positioning screw in either a clockwise or counterclockwise direction, while keeping the second lateral positioning screw stationary, to induce lateral movement of the lateral drive gear in a first lateral direction or a second lateral direction respectively (column 2, line 67 through column 3, line 42);

positioning the lateral drive gear to engage a selected contact means positioning screw (Fig. 3 and column 3, lines 5-65); and

rotating the first and second lateral positioning screws to induce stationary rotation of the lateral drive gear to selectively engage and rotate the contact means positioning screw to move the contact means to establish cross-connect (column 2, line 67 through column 3, line 65).

However, Pickens does not explicitly teach synchronously rotate mechanism.

In the same field of endeavor, Suzuki teaches synchronously rotate mechanism (column 5, lines 17-30 and column 16, lines 43-51; a plurality swinging members simultaneously rotate).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to modify Pickens's reference with synchronously rotate

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as taught by Suzuki in order to connect and disconnect a designated line simultaneously.

Regarding **claim 15**, Pickens teaches the method according to claim 12 wherein, an electric motor drives the first lateral positioning screw at one end and such that the other end is coupled to a clutch arrangement being selectively engageable to rotate the second lateral positioning screw in a manner that induces lateral movement and stationary rotation of the lateral drive gear (column 2, line 67 through column 3, line 65).

However, Pickens does not explicitly teach synchronously rotate mechanism.

In the same field of endeavor, Suzuki teaches synchronously rotate mechanism (column 5, lines 17-30 and column 16, lines 43-51; a plurality swinging members simultaneously rotate).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to modify Pickens's reference with synchronously rotate as taught by Suzuki in order to connect and disconnect a designated line simultaneously.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AKELAW A. TESHAE whose telephone

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number is (571)270-5302. The examiner can normally be reached on M-F 8:00am-5:00 Pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, FAN TSANG can be reached on (571)272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Akelaw A Teshale/  
Examiner, Art Unit 2614

/Simon Sing/  
Primary Examiner, Art Unit 2614